Chapter 2

Adequacy and Condition of Research Space

Highlights . . .

- Forty-seven percent of all biomedical research institutions classified their biological science research space and 51 percent classified their medical science research space as inadequate, or not sufficient to support the current research commitments.
- Forty-five percent of the biomedical research space at biomedical research institutions was considered to be ". . . suitable for use in the most scientifically competitive research."
- Seventeen percent (11.5 million NASF) of the biomedical research space at biomedical research institutions was rated as needing either major renovation or replacement to be used effectively.

Data Considerations

The survey measures both the adequacy of the amount of research space and the condition of this space in the biological and medical sciences. Responses to these questions are based on the assessments of a variety of different individuals, including the survey coordinator at the institution, academic deans, and other administrators involved with biomedical facilities. Thus, information about the adequacy of the amount of research space and its condition are potentially more subjective than are other survey responses.

Findings

Adequacy of Research Space

On the surface, it appears that the percentage of biomedical research institutions that rated the amount of research space to be inadequate increased in both the biological and medical sciences between 1994 and 1996, reaching higher percentages than any other survey year. Overall, 47 percent of all institutions with research space in the biological sciences indicated the amount to be inadequate in 1996 whereas two years earlier, 32 percent rated the amount of space this way. The percentage of institutions assessing the amount of research space in the medical sciences to be inadequate increased from 41 percent in 1994 to 51 percent in 1996. However, these findings must be interpreted cautiously (Table 2-1). In earlier years, respondents were provided with three possible choices for rating the adequacy of the amount of available research space — adequate, generally adequate, and inadequate. In 1996, only two categories were provided — adequate and inadequate. It is thus likely that some of those respondents who had in earlier years rated the amount of biomedical research space as "generally adequate" selected "inadequate" when faced with only two options.

With the exception of research organizations, respondents were more likely to indicate inadequate amounts of research space in the medical sciences than in the biological sciences. Perhaps not surprisingly, this was especially the case for medical schools (where 66 percent of the medical schools indicated medical science research space to be inadequate; 46 percent indicated research space in the biological sciences to be inadequate) and hospitals (32 percent rated the amount of medical science research space as inadequate compared to only 14 percent having rated biological science space as such).

Table 2-1
Percentage of institutions reporting inadequate amounts of biomedical research space by institution type and field: 1988-1996

[Percentage of institutions]

INSTITUTION TYPE	Inadequate[1]				
	1988	1990	1992	1994	1996
All institutions:					
Biological sciences	45%	41	32	32	47
Medical sciences	41	44	31	41	51
Colleges and universities:					
Biological sciences	46	43	37	43	53
Medical sciences	40	47	36	43	57
Medical schools:					
Biological sciences	49	54	36	43	46
Medical sciences	47	59	42	49	66
Research organizations:					
Biological sciences	37	14	13	13	32
Medical sciences	23	9	14	29	26
Hospitals:					
Biological sciences	43	30	8	30	14
Medical sciences	44	39	22	42	32

[1]Includes category "nonexistent but needed."

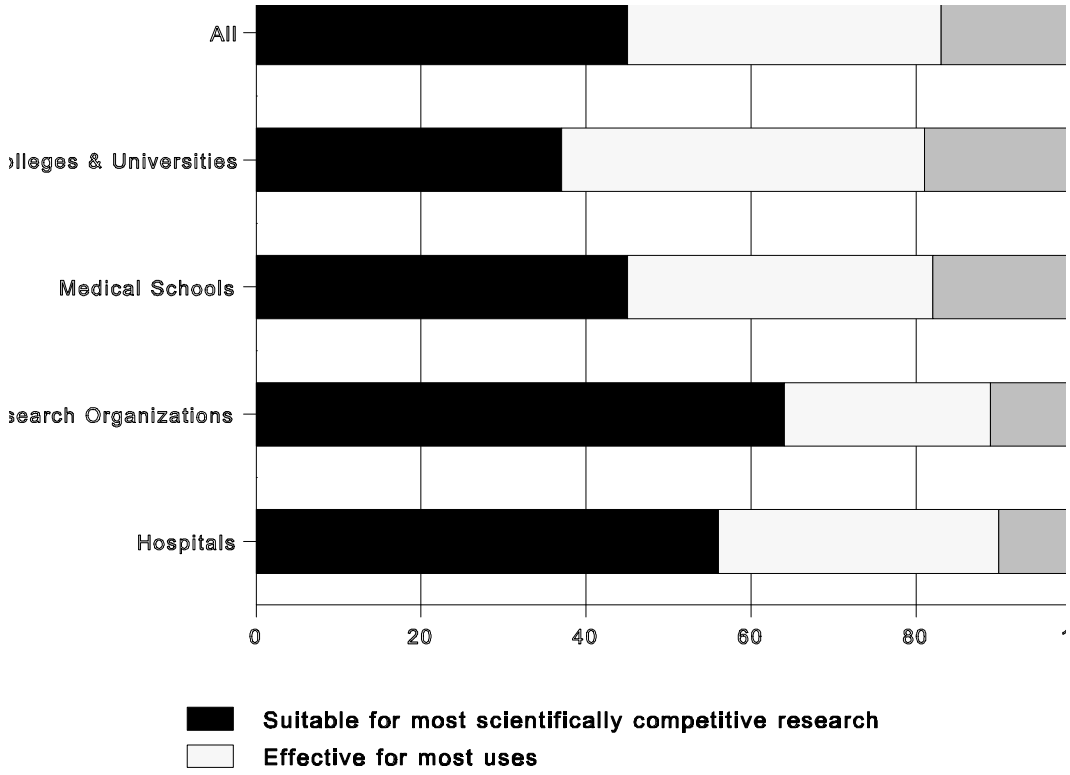
SOURCE: National Institutes of Health, *The Status of Biomedical Facilities: 1996,* Bethesda, MD, 1997

Condition of Research Space

In 1996, 45 percent (30.3 million NASF) of the biomedical research space at all biomedical research institutions was rated as "suitable for the most scientifically competitive research in the field." Another 38 percent (25.6 million NASF) was rated as "effective for most levels of research in the field, but may need limited repair/renovation" and 17 percent (11.5 million NASF) was judged to "require major renovation or replacement to be used effectively" (Table 2-2).

Research organizations rated more of their biomedical research space in the top condition category than colleges and universities, medical schools, and hospitals, with 64 percent of the space considered suitable for the most competitive research. Research organizations and hospitals classified the lowest percentage of biomedical research space as needing major renovation or replacement — 11 percent and 10 percent, respectively.

Chart 2-1
Condition of biomedical research facilities, by institution type: 1996



SOURCE: National Institutes of Health, *The Status of Biomedical Research Facilities: 1996*, Bethesda, MD, 1997

Table 2-2
Condition of biomedical research facilities, by institution type: 1996

[Percentage of research NASF]

INSTITUTION TYPE	Suitable for use in most scientifically competitive research	Effective for most levels of research but may need limited repair	Requires major renovation or replacement to be used effectively
All biomedical research institutions	45%	38	17
Colleges and universities, total	37	44	19
Top 50 in research expenditures	43	40	17
Other doctorate-granting	34	46	20
Nondoctorate-granting	26	57	17
Medical schools	45	38	18
Research organizations	64	25	11
Hospitals	56	34	10

KEY: NASF = Net assignable square feet

NOTE: Because of rounding, components may not add to 100.

SOURCE: National Institutes of Health, *The Status of Biomedical Facilities: 1996*, Bethesda, MD, 1997

With the exception of research organizations, institutional differences in the ratings of the condition of research space in the biological and medical sciences tend to be small. Colleges and universities rated 38 percent of their research space in the biological sciences to be suitable for competitive research and 35 percent of the research space in the medical sciences as such. Medical schools rated 45 percent of the biological science research space to be suitable for competitive research and 44 percent of the medical science research space to be in this condition. Hospitals indicated that 57 percent of the biological science research space and 56 percent of the medical science research space was suitable for competitive research. The research organizations, however, rated 67 percent of the biological science research space to be suitable for competitive research and 54 percent of the medical science research space to be in this condition (Table 2-3).

Table 2-3
Condition of biomedical research facilities, by institution type and field: 1996

[Percentage of research NASF]

INSTITUTION TYPE AND FIELD	Suitable for use in most scientifically competitive research	Effective for most levels of research but may need limited repair	Requires major renovation or replacement to be used effectively
ll institutions:			
Biological sciences	45%	39	16
Medical sciences	44	38	18
olleges and universities:			
Biological sciences	38	44	18
Medical sciences	35	44	21
Iedical schools:			
Biological sciences	45	40	15
Medical sciences	44	36	20
esearch organizations:			
Biological sciences	67	20	13
Medical sciences	54	39	7
ospitals:			
Biological sciences	57	30	13
Medical sciences	56	35	9

KEY: NASF = Net assignable square feet

NOTE: Because of rounding, components may not add to 100.

SOURCE: National Institutes of Health, *The Status of Biomedical Facilities: 1996*, Bethesda, MD, 1997